

CLAIMS

1. A fine particle of aluminum hydroxide for filling in a resin, which has properties such that when 200 parts by weight of said fine particle of aluminum hydroxide is filled into 100 parts by weight of an unsaturated polyester resin (Rigolac 2004WM-2, produced by Showa Highpolymer Co., Ltd.), the viscosity can be less than 200 poises in the measurement at 35°C by a Brookfield viscometer and that when 150 parts by weight of said fine particle of aluminum hydroxide is filled into a resin composition comprising 100 parts by weight of another unsaturated polyester resin (Polylite TP-123, produced by Dai-Nippon Ink & Chemicals, Inc.) and 2 parts by weight of methyl ethyl ketone peroxide, the curing time until the viscosity becomes immeasurable due to the curing of resin can be less than 20 minutes in the measurement at 35°C by a Brookfield viscometer.

2. A fine particle of aluminum hydroxide comprising a particulate aluminum hydroxide X having a BET specific surface area of 1.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 35 to 150  $\mu\text{m}$ , a particulate aluminum hydroxide Y having a BET specific surface area of 1.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 10 to 35  $\mu\text{m}$  and a particulate aluminum hydroxide Z having a BET specific area of 3.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 0.5 to

10  $\mu\text{m}$ , in a compositional mass ratio falling in the area surrounded by four points of Point  $\alpha$  ( $\text{X:Y:Z}=47.5:25.0:27.5$ ), Point  $\beta$  ( $\text{X:Y:Z}=47.5:50.0:2.5$ ), Point  $\gamma$  ( $\text{X:Y:Z}=82.5:0.0:17.5$ ) and Point  $\delta$  ( $\text{X:Y:Z}=72.5:0.0:27.5$ ) including the lines in the ternary composition diagram shown in Fig. 1 where the entire is assumed to be 100% by mass.

3. A fine particle of aluminum hydroxide comprising a particulate aluminum hydroxide  $X$  having a BET specific surface area of 1.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 35 to 150  $\mu\text{m}$ , a particulate aluminum hydroxide  $Y$  having a BET specific surface area of 1.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 10 to 35  $\mu\text{m}$  and a particulate aluminum hydroxide  $Z$  having a BET specific area of 3.0  $\text{m}^2/\text{g}$  or less and a secondary particle size of 0.5 to 10  $\mu\text{m}$ , in a compositional mass ratio falling in the area surrounded by four points of Point  $A$  ( $\text{X:Y:Z}=50.0:25.0:25.0$ ), Point  $B$  ( $\text{X:Y:Z}=50.0:45.0:5.0$ ), Point  $C$  ( $\text{X:Y:Z}=80.0:0.0:20.0$ ) and Point  $D$  ( $\text{X:Y:Z}=75.0:0.0:25.0$ ) including the lines in the ternary composition diagram shown in Fig. 2 where the entire is assumed to be 100% by mass.

4. The fine particle of aluminum hydroxide as claimed in claim 2 or 3, wherein the particulate aluminum hydroxide  $X$  has a secondary particle size of 50 to 150  $\mu\text{m}$ , the particulate aluminum hydroxide  $Y$  has a secondary particle size of 10 to 25  $\mu\text{m}$  and the particulate aluminum

hydroxide Z has a secondary particle size of 0.5 to 8  $\mu\text{m}$ .

5. A resin composition comprising the fine particles of aluminum hydroxide claimed in any one of claims 1 to 4.

6. A resin composition comprising the fine particle of aluminum hydroxide claimed in any one of claims 1 to 4, wherein the viscosity of the resin composition measured at 35°C by a Brookfield type viscometer is less than 200 poises.

7. A resin composition comprising the fine particle of aluminum hydroxide claimed in any one of claims 1 to 4, which is a resin composition for forming an artificial marble.

8. A resin composition comprising the fine particle of aluminum hydroxide claimed in any one of claims 1 to 4, which comprises at least one resin selected from the group consisting of an unsaturated polyester resin, an acrylic resin, a vinyl ester resin and an epoxy resin.

9. A resin composition comprising the fine particle of aluminum hydroxide claimed in any one of claims 1 to 4, which is a cured resin composition.